

SOLID STATE
POWER
CONTROLLERS

LABAC
SCR
CONTROLLER

Smooth, complete control of a-c power to 4.6 kva[†]

SOLID STATE

LABAC^{TM*}

■ This completely solid state device uses silicon control rectifiers (SCRs) pulsed by a magnetic amplifier for automatic or manual control of a-c power.

LABAC* is a compact, lightweight, inexpensive replacement for bulky, heavy, saturable-core reactors, thyratrons, and motor-driven variable transformers.

CHECK THESE LABAC* FEATURES:

- Much less expensive than conventional power-control devices.
- Capacity up to 4600 watts.†
- Compact and lightweight—5"x6"x9½".
- Fast response—within 1 cycle of line frequency.
- Smoothly variable output from zero to full power.
- Manual or automatic control by 0-1 ma. signal.
- Other standard control currents accommodated through use of external resistor.
- Isolated 200 ohm control input.
- Operates from power line frequency of 60cps.
- Easy to install—complete with line cord, signal jacks and load receptacle.
- Can be conveniently panel mounted.

Multiple installations can increase power capacity in three-phase applications. Custom models can provide more capacity or different control parameters.

APPLICATIONS: Proportional control of power in electric furnaces, ovens and kilns; process controls of many kinds; replacement of power relays and mechanical contactors in on-off power control; theater and display light dimming; speed control of universal motors; many laboratory applications.

†Single and three-phase models available with capacities up to 226 KVA, a-c or d-c.

*Labac is a Trademark of Research, Inc., Minneapolis, Minn.



Turn page for specs

VERSATILE LABAC* HAS MANY APPLICATIONS

Smoothly variable control over the entire rated power range gives Labac* many applications. It can be used with temperature controllers for proportional or on-off control of power to industrial electric ovens and furnaces. It is an excellent speed controller for universal electric motors. It provides smooth dimming control of stage or commercial lighting, with the added advantage of easy remote control using light wiring. It is a convenient, portable plug-in unit for laboratory use with ovens and temperature controllers. Used as an off-on power controller to replace mechanical contactors and power relays, Labac* can be switched to full power by 1 ma. control current.

SPECIFICATIONS:

Size: 5" x 6" x 9½"; 7½ lbs.

Capacity: 10 or 20 amps, depending on model. Up to 4.6 kva.†

Input (line): 115 or 230 v. a-c.

Output: Smoothly variable from 0 to line voltage; a-c wave form modified as shown in drawings on this page.

Control input impedance: Nominal 200 ohms, isolated.

Response to step signal: Within one cycle of 60 cycle line frequency.

Manual control: Directly by large, graduated knob on top of unit, or remotely with 0-1 ma. signal.

Control current: 0-1 ma. (see curve at right). Easily modified for other standard control signals by use of external or internal resistors.

Control current bias: Manual dial can be used to bias control signal (see curves at right).

Control source impedance: 3,000 ohms or higher—lower source impedances reduce response slightly.

Power gain: In excess of 20 million (1 ma./200 ohms to 4.6 kva).

Power factor: 1.0.

Ambient temperature: Up to 100° F. for full rated power. Forced convection cooling base available for operation in higher ambients. Higher ambient temperatures reduce capacity.

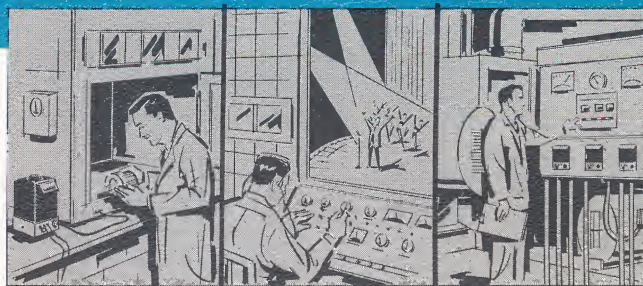
Fuse: Protection against short circuits in load.

HOW TO ORDER: Specify model number for any standard Labac*, and any optional features desired. For custom models write for quotation, listing special parameters.

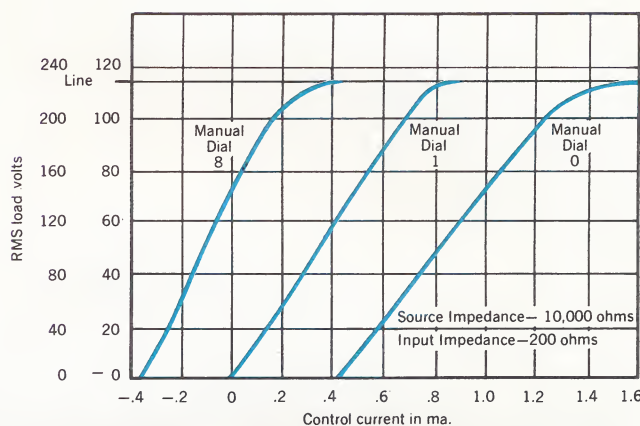
OPTIONS AND ACCESSORIES:

Fan Base: For high ambient-temperature or short-term overload. Adds 2 inches to overall height.

3-Channel Mounting Panel: To mount three LABAC* horizontally.

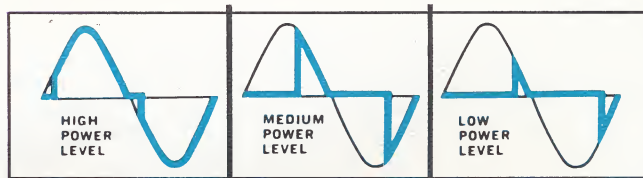


ELECTRIC FURNACES, OVENS • STAGE, DISPLAY LIGHTING • PROCESS CONTROL



Control current vs. load voltage as a function of manual dial setting

0-1 ma. signal precisely proportions the voltage to the load from zero to full line voltage.



Labac* proportions the voltage across the load by varying the "firing angle" (or instant of time during each half of the a-c cycle when current starts to flow through an SCR). This regulates power from maximum at zero firing angle to shut-off at 180°.

MODEL NUMBER	LINE VOLTAGE	CAPACITY (AMPS.)	CAPACITY (KVA.)
Labac* 10-1	115	10	1.15
20-1	115	20	2.3
10-12	115/230	10	2.3
20-12	115/230	20	4.6

One of the lowest cost SCR variable-power controllers available. Contact your nearest R-I CONTROLS sales representative or write directly for price- and discount-schedule information.

†Three-phase models available with capacities up to 226 KVA.

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